

CLAIMS

WHAT IS CLAIMED IS:

1. A device for engaging tissue, comprising:

a generally annular-shaped body defining a plane and

5 disposed about a central axis extending substantially normal to the plane, the body being movable from a substantially planar configuration lying generally in the plane towards a transverse configuration extending out of the plane, the body comprising a plurality of looped elements comprising alternating first and
10 second curved regions;

at least one first primary tine extending from a first curved region of a looped element of the annular-shaped body generally towards the central axis in the planar configuration and being deflectable out of the plane when the body is moved
15 towards the transverse configuration;

at least one second primary tine extending from another first curved region of a looped element of the annular-shaped body towards the first primary tine when the body is disposed in the planar configuration; and

20 said first and second primary tines being offset from the axis of symmetry of the looped element from which they extend.

2. The device of claim 1, wherein the body is biased towards the planar configuration for biasing the primary tines generally towards the central axis.

5 3. The device of claim 1, further comprising:
a set of secondary tines having lengths shorter than the first and second lengths, the secondary tines extending from the annular-shaped body generally towards the central axis in the planar configuration and being deflectable out of the plane when
10 the body is moved towards the transverse configuration.

4. The device of claim 1, wherein the first primary tine, the second primary tine, and the body are formed from a single sheet of material.

15 5. The device of claim 4, wherein the sheet of material comprises a superelastic alloy.

6. The device of claim 1, wherein the looped elements
20 generally define an endless zigzag pattern extending about the central axis.

7. The device of claim 1, wherein the first primary tine and the second primary tine extend from first curved regions disposed opposite one another.

5 8. The device of claim 7, further comprising a set of secondary tines having lengths shorter than the first and second lengths, the secondary tines extending from the annular-shaped body generally towards the central axis in the planar configuration and being deflectable out of the plane when the
10 body is moved towards the transverse configuration, each pair of adjacent tines having a first curved region disposed therebetween.

9. The device of claim 8, wherein a secondary tine is
15 disposed on either side of the first primary tine, and a secondary tine is disposed on either side of the second primary tine.

10. The device of claim 1, wherein the plurality of looped
20 elements are expandable between expanded and compressed states for increasing and reducing, respectively, a periphery of the body in the transverse orientation.

11. The device of claim 10, wherein the plurality of looped elements are biased towards the compressed state.

12. The device of claim 1 wherein said first and second
5 primary tines are connected to said first curved regions of said looped elements by a connector element selected from the group consisting of straight and curved connector elements.

13. The device of claim 12 wherein said connector element is curved.

10 14. The device of claim 12 wherein said connector element is straight.

15. The device of claim 6 wherein the endless zigzag pattern comprises a generally sinusoidal pattern.

16. The device of claim 1 wherein said first curved regions
15 define an inner periphery of the body and the second curved regions define an outer periphery of the body when the body is in the planar configuration.

17. A device for engaging tissue, comprising:

20 a generally annular-shaped body defining a plane and disposed about a central axis extending substantially normal to the plane, the body being movable from a substantially planar configuration lying generally in a plane towards a transverse configuration extending at an angle through the

plane, the body comprising a plurality of looped elements comprising alternating first and second curved regions, the first curved regions defining an inner periphery of the body and the second curved region defining an outer periphery of the body when it is in the planar configuration;

at least one first primary tine extending from a first curved region generally toward the central axis in the planar configuration and being deflectable out of the plane when the body is moved towards the transverse configuration;

at least one second primary tine extending from another first curved region towards the central axis and being deflectable out of the plane when the body is moved towards the transverse configuration; and

said first and second primary tines being offset from the axis of symmetry of the looped element from which they extend.

18. The device of claim 1 wherein at least one of said first and second primary tines is connected to a first curved region by a curved connecting element.

19. The device of claim 17 wherein at least one of said primary tines is connected to a first curved section by a straight connecting element.

20. The device of claim 1 wherein the primary tines overlap the first curved region which is opposite the first curved region from which the primary tine extends.

21. The device of claim 17 wherein the primary tines
5 overlap the first curved region which is opposite the first curved region from which the primary tine extends.

22. The device of claim 14 wherein the primary tines overlap the first curved region which is opposite the first curved region from which the primary tine extends.

10 23. The device of claim 19 wherein the primary tines overlap the first curved region which is opposite the first curved region from which the primary tine extends.